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10/773,423	02/09/2004	Tomoyuki Furuya	00862.023456.	6580

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EXAMINER	
RILEY, MARCUS T	
ART UNIT	PAPER NUMBER
2625	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,423	FURUYA, TOMOYUKI	
	Examiner	Art Unit	
	MARCUS T. RILEY	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2010*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *2,3,8 & 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/04/2007; 08/06/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 22, 2010 has been entered.

Response to Amendment

2. This office action is responsive to applicant's remarks received on March 22, 2010. Claims 1, 4-7 & 10-14 and newly added claim15 are pending. Claims 2, 3, 8 & 9 have been cancelled.

Response to Arguments

3. Applicant's arguments with respect to amended claims 1, 7 & 12 filed on March 22, 2010 has have been fully considered but they are not persuasive.

A: Applicant's Remarks

For Applicant's remarks, see "*Applicant Arguments/Remarks Made in an Amendment*" filed March 22, 2010.

A: Examiner's Response

Applicant argues that the applied references do not teach is not seen to disclose or suggest (i) processing means for performing color processing and n-value conversion processing of rendering instructions stored in storage means Applicant also argues that the applied references do not teach or suggest (ii) second rendering means for performing rendering processing by pasting n-valued data converted by the n-value conversion processing into an object corresponding to the rendering instructions to generate n-valued bitmap data; Furthermore, Applicant argues that the applied references do not teach or suggest (iii) determining means for reading out the rendering instructions that have been stored in the storage means and determining whether the rendering instructions include a rendering instruction other than overwriting for each scan line after the processing means has processed the rendering instructions.

Examiner understands Applicant's argument but respectfully disagrees. Ohnishi either alone or in combination with Shimzu discloses, teaches or suggests Applicant's claimed invention. Ohnishi at Figs. 1-3 and Column 3 line 64 thru Column 4, line 22 discloses processing means, for performing color processing and n-value conversion processing of the rendering instructions stored in the storage means. Fig. 1 shows the Central Processing Unit 1. Fig. 2 is a conceptual diagram showing the process during which the image processing control program and the associated data, which are stored in the storage device of the medium reading unit 6, are read by the central processing unit 1. Fig. 3 is a diagram for explaining the processing performed by the driver in Fig. 2. When a drawing command is received, color correction is performed. The obtained color data is then used to perform the development process, and a multi-value bit map image is generated. At the same time color conversion is performed and the resultant bit map is

binarized (n-valued) to obtain a device bit map. When the processing is done, the device bit map is transmitted to the printer and color correction may be performed either before or after the color data have been used to generate the bit map. Ohnishi at Figs. 1-3 and Column 8, lines 51-60 discloses second rendering means for performing rendering processing by pasting n-valued data converted by the n-value conversion processing into an object corresponding to the rendering instructions to generate n-valued bitmap data. Fig. 26, Step S26-21 is the step for performing second rendering means for performing rendering processing by passing n-valued data. For example, the color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object. Fig. 26, S26-22 shows where the n-valued data is converted into a bitmap. The data obtained by the color process are sequentially developed in the pertinent area of the device bit map. Fig. 1, CPU #12 and Column 4, lines 38-42 of Shimizu '055 discloses determining means for reading out the rendering instructions that have been stored in the storage means. For example, Program ROM 6 is a memory for storing processing procedures as shown in Fig. 2 and CPU 12 is used for performing the reading of color PDL data in accordance with the software in the storage means. Fig. 10 Hard rendering 506 and Column 10, lines 8-18 discloses determining whether the rendering instructions include a rendering instruction other than overwriting for each scan lines after the processing means has processed the rendering instructions. For example, Fig. 10 shows the different rendering instructions other that overwrite for each scan line. If the drawing mode is a processing capable of the fast rendering with hardware, such as overwriting or transparent, the hard rendering is executed at step 506. This is a processing equivalent to the fast processing of the hard renderer. Thus, Ohnishi either alone or in combination with Shimzu discloses, teaches

or suggests Applicant's claimed invention.

As a result, claim 1 is not allowable over the applied references. In addition, independent Claims 7 and 12 are method and printer driver claims, respectively, which generally correspond to apparatus Claim 1. Accordingly, Claims 7 and 12 not allowable. The other claims in the application are each dependent from the independent claims and are also not allowable.

As a result, Applicant's application is not in condition for allowance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 4-7 & 10-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi '465 (US 7,853,465 B1 hereinafter, Ohnishi '465) in combination with Shimzu (US 6,490,055 hereinafter, Shimzu '055).

Regarding claim 1; Ohnishi '465 discloses a printing control apparatus (Fig. 1, Printer 7) for outputting print data and executing printing, comprising: (i.e. Printer 7 prints and outputs and prints data. Column 2, lines 14-19):

storage means (Fig. 1, Main Storage Unit 2) to which rendering instructions are input, for storing the rendering instructions page by page (i.e. The system program and the application program are loaded into a main storage unit 2 via an auxiliary storage unit 3 from a medium reading unit 6. Column 3, lines 50-54);

processing means (Fig. 1, Central Processing Unit 1) for performing color processing and n-value conversion processing of the rendering instructions stored in the storage means (Figs. 1, 2, & 3 i.e. Fig. 1 shows the Central Processing Unit 1. Fig. 2 is a conceptual diagram showing the process during which the image processing control program and the associated data, which are stored in the storage device of the medium reading unit 6, are read by the central processing unit 1. Fig. 3 is a diagram for explaining the processing performed by the driver in Fig. 2. When a drawing command is received, color correction is performed. The obtained color data is then used to perform the development process, and a multi-value bit map image is generated. At the same time color conversion is performed and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing is done, the device bit map is transmitted to the printer and color correction may be performed either before or after the color data have been used to generate the bit map. Column 3 line 64 thru Column 4, line 22);

a first rendering means (Figure 26, Step S26-10) for developing the rendering instructions of each scan into multi-valued bitmap data (Fig. 26, Step S26-11) performing color processing of the multi-valued bitmap data (Fig. 26, Step S26-20) and converting the color processed multivalued bitmap data to n-valued bitmap data (Fig. 26, Step S26-21), wherein the number of bits associated with the multivalued bitmap data is greater than n (Step S26-21, Column 4, lines 6-21);

a second rendering means (Fig. 26, Step S26-21) for performing rendering processing by passing n-valued data (Fig. 26, S26-21 i.e. The color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object Column 8, lines 51-56);

converted by the n-value conversion processing into an object corresponding to the rendering instructions to generate n-valued bitmap data (Fig. 26, S26-22 i.e. The data obtained by the color process are sequentially developed in the pertinent area of the device bit map. Column 8, lines 57-59);

Ohnishi '465 does not expressly disclose determining means for reading out the rendering instructions that have been stored in the storage means and determining whether the rendering instructions include a rendering instruction other than overwriting for each scan lines after the processing means has processed the rendering instructions; control means for extracting edges of

objects in the rendering instructions in each scan line and exercising control so as to cause the first rendering means to render the multivalued bitmap data between the edges if the determining means determines that the rendering instructions include a rendering instruction other than the overwriting for a scan line and to cause the second rendering means to form the n-valued bitmap data if said determining means determines that the rendering instructions do not include a rendering instruction other than overwriting for the scan line; wherein the control means causes the first rendering means or the second rendering means to develop all the rendering instructions for one scan line into bitmap data before rendering the line by line.

Shimizu '055 discloses determining means (Fig. 1, CPU #12) for reading out the rendering instructions that have been stored in the storage means (Fig. 1, i.e. Program ROM 6 is a memory for storing processing procedures as shown in Fig. 2, is a CPU 12 performing the reading of color PDL data in accordance with the software in the storage means. Column 4, lines 38-42).

and determining whether the rendering instructions include a rendering instruction other than overwriting for each scan lines after the processing means has processed the rendering instructions (Fig. 10, Hard rendering 506, i.e. Fig. 10 shows the different rendering instructions other that overwrite for each scan line. If the drawing mode is a processing capable of the fast rendering with hardware, such as overwriting or transparent, the hard rendering is executed at step 506. This is a processing equivalent to the fast processing of the hard renderer. Column 10, lines 8-18);

control means (Fig. 1, Printer Controller 14) for extracting edges of objects in the rendering instructions in each scan line and exercising control so as to cause the first rendering means to render the multivalued bitmap data between the edges if the determining means determines that the rendering instructions include a rendering instruction other than the overwriting for a scan line (Fig. 8, Steps S901-S903, i.e. At step 901, the CPU 12 extracts scan line information and at Step S903, the hard renderer 9

performs the rendering and sends band raster information bit map data into the printer engine 13See column 8, lines 10-34, and Column 16, lines 5-8);

and to cause the second rendering means to form the n-valued bitmap data if said determining means determines that the rendering instructions do not include a rendering instruction other than overwriting for the scan line (Fig. 8, Step S903, i.e. The hard renderer 9 performs the rendering and sends band raster information (bit map data) into the printer engine 13. Column 8, lines 27-34);

wherein the control means causes the first rendering means or the second rendering means to develop all the rendering instructions for one scan line into bitmap data before rendering the line by line (Fig. 8, Step S901 i.e. Fig. 8 shows the overview of band rendering process. The mask information 151 to be supported is composed of run length of one scan line with no edge crossed, bit map image, and bit map font." column 6, lines 21-24).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (Shimzu '055 at "Field of the Invention").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding determining means and control means as taught by Shimzu '055. The motivation for doing so would have been because it advantageous to provide a color printing apparatus with determining and control means in order to improve then scanning of a line. Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 4; Ohnishi '465 as modified does not expressly disclose wherein the storage means sorts and stores entered rendering instructions, and said the first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in the storage means.

Shimzu ‘055 discloses where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means (i.e. Each mask object finally created is made by subdividing a page memory for the rendering with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots), sorting each mask object for each band, and making up a link list as shown in FIG. 5D within each band.” Column 6, lines 38-44).

Ohnishi ‘465 and Shimzu ‘055 are combinable because they are from same field of endeavor of a printing apparatus (“The present invention relates to a color printing apparatus…” Shimzu ‘055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi ‘465 by adding where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means as taught by Shimzu ‘055. The motivation for doing so would have been because it advantageous to store and sort information to in order to maintain organization and not lose imfromation. Therefore, it would have been obvious to combine Ohnishi ‘465 with Shimzu ‘055 to obtain the invention as specified in claim 1.

Regarding claim 5; Shimzu ‘055 discloses where the sorting order is in a direction from the top to the bottom of a page (i.e. Each mask object finally created is made by subdividing a page memory for the rendering with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots), sorting each mask object for each band, and making up a link list as shown in FIG. 5D within each band. Column 6, lines 38-44).

Regarding claim 6; Ohnishi '465 discloses where the value of n is 2 (i.e. The resultant bit map is binarized (n-valued) to obtain a device bit map. Thus, it consists of, indicate, or involve two. Column 4, lines 15-21 and Column 7, lines 27-32).

Regarding claim 7; Claims 7 & 12 contains substantially similar features as that of claim 1. Thus, claims 7 & 12 are rejected on the same grounds as claim 1.

Regarding claim 10; Claim 10 contains substantially the same subject matter as claim 4. Therefore, claim 10 is rejected on the same grounds as claim 4.

Regarding claim 11; Claim 11 contains substantially the same subject matter as claim 5. Therefore, claim 11 is rejected on the same grounds as claim 5.

Regarding claim 13; Ohnishi '465 discloses where the first rendering means includes: means for generating multi-valued bitmap data based upon the rendering instructions (Fig. 3, i.e. Fig. 3 shows that the obtained color data are then used to perform the development process, and a multi-value bit map image is generated." column 4, lines 6-11);

first color correcting means (Fig. 3, Color Correction) for performing a color correction of the multi-valued bitmap data (i.e. Color correction is performed for multi-value color data that are included in the drawing command. Column 4, lines 6-9);

first color converting means (Fig. 3, Color Conversion) for converting colors of the multi-valued bitmap data that has been subjected to the color correction by the first color correcting means to multi-valued bitmap data of another color space (i.e. Referring to the pattern plane, color

conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. Column 4, lines 15-19);

and n-value converting means (Fig. 3, Two (N) Valued) for subjecting the multi-valued bitmap data that has been subjected to the color conversion by said first color converting means to an n-value conversion (i.e. Color correction is performed for multi-value color data that are included in the drawing command. The obtained color data are then used to perform the development process, and a multi-value bit map image is generated. At the same time as the color data are being developed to generate the bit map. Referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. Column 4, lines 6-21).

Regarding claim 14; Ohnishi '465 discloses wherein the second rendering means includes: second color correcting means for correcting colors of an image included in the rendering instructions second color converting means for converting colors of the image that has been subjected to the color correction by said second color correcting means to colors of another color space (Fig. 26, Step S26-21 i.e. Step S26-21 shows wherein the color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object. Column 8, lines 53-56).

image n-value converting means for subjecting the image data of the image that has been subjected to the color conversion by the second color converting means to an n-value conversion and creating an n-valued pattern (Fig. 26, Step S26-21 and Fig. 21 Step S21-17 i.e. Step S26-21 shows wherein the color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object. When the processing for one line has been completed (21-16), the optimal color correction, color conversion and binarization (n-valued) processes are performed for the object in each buffer (21-17). Column 8, lines 53-56 and Column 6, lines 27-31);

and means for creating n-valued bitmap data based upon the n-valued pattern obtained by the n-value conversion performed by the image n-value converting means (Fig. 26, Step S26-21 and Fig.

21 Step S21-17 i.e. Step S26-21 shows wherein the color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object. When the processing for one line has been completed (21-16), the optimal color correction, color conversion and binarization (n-valued) processes are performed for the object in each buffer (21-17). Column 8, lines 53-56 and Column 6, lines 27-31).

Regarding claim 15; Ohnishi '465 discloses wherein the processing means performs the color processing and n-value conversion processing of all rendering instructions of a page to be processed that are stored in the storage means. (Fig. 2 i.e. Fig. 2 is a conceptual diagram showing the process during which the image processing control program and the associated data, which are stored in the storage device of the medium reading unit 6, are read by the central processing unit 1. When a drawing command is received, color correction is performed. The obtained color data is then used to perform the development process, and a multi-value bit map image is generated. At the same time color conversion is performed and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing is done, the device bit map is transmitted to the printer and color correction may be performed either before or after the color data have been used to generate the bit map. Column 3 line 64 thru Column 4, line 22);

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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